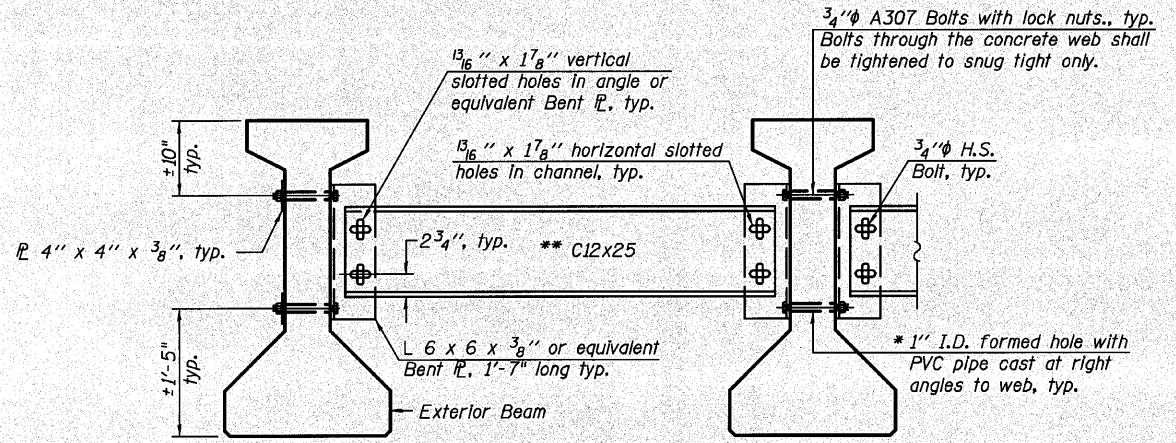


FRAMING PLAN



Notes:

All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted. Two hardened washers are required for each set of oversized holes.

All holes shall be 1/16" φ unless otherwise noted. 5/16" x 3" x 3" plate washers are required over all slotted holes.

All bolts shall be galvanized according to AASHTO M232. Bracing shall be installed as beams are erected and tightened as soon as possible during erection.

Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete I-Beams, 42".

* Fabricator shall locate to miss strands within permissible tolerances.

** Alternate C12x30 channels are permitted to facilitate material acquisition.

INTERIOR BEAM MOMENT TABLE

	0.4 Sp. 1 0.6 Sp. 3	Pier 1 or 2	0.5 Sp. 2
I	(in ⁴) 90,956	-	90,956
I'	(in ⁴) 288,890	-	288,890
S _b	(in ³) 5,153	-	5,153
S _b '	(in ³) 8,897	-	8,897
S _t	(in ³) 3,735	-	3,735
S _t '	(in ³) 30,314	-	30,314
DC1	(k/ft) 1.25	-	1.25
M _{DC1}	(k) 566	-	702
DC2	(k/ft) 0.15	0.15	0.15
M _{DC2}	(k) 44	66	25
DW	(k/ft) 0.33	0.33	0.33
M _{DW}	(k) 99	145	55
M _{L + IM}	(k) 772	749	713

I: Non-composite moment of inertia of beam section (in⁴).
 I': Composite moment of inertia of beam section (in⁴).
 S_b: Non-composite section modulus for the bottom fiber of the prestressed beam (in³).
 S_b': Composite section modulus for the bottom fiber of the prestressed beam (in³).
 S_t: Non-composite section modulus for the top fiber of the prestressed beam (in³).
 S_t': Composite section modulus for the top fiber of the prestressed beam (in³).
 DC1: Un-factored non-composite dead load (kips/ft.).
 M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).
 DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
 M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
 DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
 M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
 M_{L + IM}: Un-factored live load moment plus dynamic load allowance (Impact) (kip-ft.).

INTERIOR BEAM REACTION TABLE

	Abut.	Pier 1 Span 1 Pier 2 Span 3	Pier 1 Span 2 Pier 2 Span 2
R _{DC1}	(k) 38.5	38.5	41.9
* R _{DC2}	(k) 3.7	10.5	10.9
* R _{DW}	(k) 8.1	24.2	24.2
* R _{L + IM}	(k) 71.8	132.1	132.1
R _{Total}	(k) 122.1	205.3	209.1

* The total R_{DC2}, R_{DW} and R_{L + IM} are assumed to be distributed evenly to each bearing line at a pier regardless of the span ratios. The bearing design at a pier is based on the maximum reactions of either span.

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DESIGNED - GPM	REVISD -
CHECKED - BJM	REVISD -
DRAWN - GPM	REVISD -
CHECKED - BJM	REVISD -

PLOT DATE = 11/22/2010

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN
STRUCTURE NO. 037-0176
SHEET NO. 18 OF 29 SHEETS

F.A.P. RTE. 638	SECTION 129BR-4	COUNTY HENRY	TOTAL SHEETS 93	SHEET NO. 39
CONTRACT NO. 64D25			ILLINOIS FED. AID PROJECT	